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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
NGUYEN BA, HOANG VU A	
ART UNIT	**PAPER NUMBER**
2192	

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/083,670	BACHMAT ET AL.	
	Examiner	Art Unit	
	Hoang-Vu A. Nguyen-Ba	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to the amendment filed March 6, 2006.

2. Claims 1-29 remain pending. Claims 1, 10, 14, 15, 16, 25 and 29 are independent claims.

Response to Arguments

3. Applicants' arguments in the Remarks filed March 6, 2006 have been fully considered but are not persuasive. The following is an examiner's response to Applicants' arguments.

a. 101 Rejection:

Applicants essentially argued, at bottom of page 3 and top of page 4 of their Remarks, the following:

> As best understood, the Examiner asserts that:
>
> 1. The claimed steps can be carried out by computer-readable code.
> 2. This code describes the method.
> 3. Therefore, this code is non-functional descriptive data.
>
> Applicant fails to see the relevance of this line of reasoning. Claim 1 recites a method; it does not recite computer-readable code.
>
> Accordingly, there appears to be no basis for the examiner's rejection of claim 1 as reciting abstract, and hence non-statutory, subject matter. Claims 2-9, all of which depend on claim 1 likewise recite statutory subject matter.
>
> Independent claims 10 and 14 and all claims dependent thereon likewise recite statutory subject fro reasons discussed above in connection with claim 1.

In response to Applicants' argument that Applicants fail to see the relevance of this line of reasoning because claim 1 recites a method but does not recite computer-readable code, the examiner respectfully submits that besides the performance of the claimed method by a human being, what other means could this method produce a final result that is

useful, concrete and tangible? And if this method is not computer-implemented (i.e., steps performed by the execution of appropriate computer instruction code) then the claimed method recites abstract and non-statutory subject matter not directed to a practical application which produces a useful, concrete and tangible result.

b. 112 Rejection (Written Description):

Claims 1 and 16: "score indicative of performance"

Applicants essentially argued that it is quite clear that based on the cited portion of Applicants' specification, the score indicative of performance" must be a number and thus, one of ordinary skill reading the cited passage would immediately see that the two scores must be numbers.

In response, the examiner thanks Applicants for pointing out that the score is a number. However, it is noted that the cited passage of Applicants indicates that "data indicative of an extent to which the competing-algorithm score 32a-c exceeds the incumbent-algorithm score 26." One of ordinary skill or one skilled in the art would still not know to which extent the competing-algorithm score exceeds the incumbent-algorithm (e.g., what is the threshold number?). Therefore, the claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claims 6 and 21: "obtaining meta-data..."

i. Applicants essentially submitted that the examiner:

appears to be suggesting that one of ordinary skill would not understand the meaning of "meta-data"; and

appears to suggest that one of ordinary skill in the art would not know what it means for meta-data to "characterize" an input-data stream. See Remarks, pp. 5-6.

In response to Applicants' arguments, the examiner respectfully notes that in his previous Office action at page 8, first three lines, the examiner specifically submitted that "[w]hat is exactly meta-data that can include, but not limited to, statistics descriptive of the input data-stream during the selected interval (Specification, page 2, last ¶)? What are exactly descriptive statistics of the input data stream?" Applicants' arguments do not appear to address the specific questions raised by the examiner. If Applicants cannot show what their meta-data include or do not include then it is submitted that Applicants' claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

ii. Applicants further submitted that the examiner asks how the input stream can be a "process." Responsive to

the examiner's question, Applicants indicated that the term "process" is well-known in the art for describing time-varying phenomena subject to random fluctuations.

In response, the examiner thanks Applicants for clearly defining the term process. As best understood by the examiner, a process is thus an act of describing time-varying phenomena. The examiner, however, notes that the input stream is a body of moving data. A body of moving data is obviously not an act of describing time-varying phenomena. Therefore, Applicants have failed to address the examiner's question "how can an input stream be a process?" If Applicants cannot show what the input-stream is then Applicants did not have possession of the claimed invention at the time the invention was made.

Claims 7 and 22: "maintaining statistics..."

Applicants submitted that the meaning of "statistics" is certainly well-known and thus the meaning of "statistics descriptive of an input data-stream during a selected interval" should not be a mystery to one of ordinary skill in the art.

The examiner respectfully notes that Applicants have failed to concretely show an example of the statistics descriptive of the input data-stream. Therefore, it is submitted that Applicants did not have possession of the claimed statistics and input data-stream at the time the invention was made.

Claims 8 and 23: "incorporating a penalty..."

Applicants submitted at page 7 that the concept of a penalty is described in the specification and although the term "penalty" is not specifically used in the detailed description, the notion of somehow applying an offset to a score to compensate for an external factor is clearly disclosed. Applicants further submitted that whether the offset is called penalty, handicap, or offset simply reflects the fact that the English language is sufficiently rich to provide multiple words for the same underlying idea.

In response, the examiner respectfully notes that words of a claim must be given their "plain meaning" unless they are defined in the specification. See MPEP 2111.01 and *In re Zlet*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). Since, the term "penalty" is not specifically defined in the specification, the term "penalty" is thus given its plain meaning, which may cover any measurement quantities that are imposed on a subject for violation of the rules of a process.

Furthermore, even assuming *arguendo*, that the term "penalty" can be interpreted as the "handicap"described in the portion of the specification cited by Applicants, the examiner notes that, especially in nonchemical cases, the words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification. See, e.g., *Liebel-Flarsheim Co. v. Medral Inc.*, 358 F.3d 898, 906, 69 USPQ2d 1801, 1807 (Fed. Cir. 2004). Moreover, the examiner submits that Applicants were

advocating the impermissible importation of subject matter from the specification into the claim. See also *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997).

Therefore, the examiner submits that "incorporating a penalty into said competing algorithm" was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Even assuming that the penalty is properly supported from the specification, the specification still does not contain an explicit description of what are amounts that reflect the system resources consumed.

Claims 9, 24, 28: "selecting said penalty to be indicative of a cost..."

See above discussion.

Claims 10, 15, 27: "generating meta-data characterizing an input data-stream"

See previous discussion pursuant to Claims 6 and 21.

Claims 10, 25: "statistically characterizing a usage pattern..."

Applicants submitted that the meaning of "usage pattern" is clear on its face. Certainly, both "usage" and "pattern" are well

understood words. The concatenation of these words simply means a pattern of usage.

In response, the examiner appreciates Applicants' effort to explain what a "usage pattern" is. However, Applicants still fail to address the examiner's question "Does this mean describing a usage pattern with a quantity that is computed from a sample?" Therefore, the examiner submits that "statistically characterizing a usage pattern" was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claims 14 and 29

Applicants submitted that the examiner has included claims 14 and 29 in the list of claims rejected as lacking support in the written specification. However, the examiner does not specify specifically what limitation of these claims is believed to lack support in the description. Accordingly, Applicants submitted that they cannot respond meaningfully to this section 112 rejection. Moreover, Applicants submitted that since the rejection is incomplete Applicants submitted that the present Office action fails to comply with Rule 1.104(b); therefore, Applicants expect that any subsequent Office action will be non-final.

In response to the above arguments, the examiner respectfully notes that claims 14 and 29 recite similar limitations of claims 1 and 16 (see section 13 of Office action dated June 8,

2005). Since these limitations have been discussed in conjunction with claims 1, the same response set forth above also applies.

Claim 15: "generating data indicative of a performance attribute"

Applicants argued that the examiner appears to suggest that one of ordinary skill would have difficulty understanding "performance attribute." Then, Applicants cited a relevant portion of the specification that describes performance attributes.

In response, the examiner notes that the question raised by the examiner in the previous Office action was "[w]hat are exactly performance attributes of an algorithm?" Responsive to the examiner's question, Applicants cited the relevant portion of the specification that indicates that the choice of a performance attribute **depends** in part on the task to be performed. **For example**, if the task is to manage a cache memory, a suitable performance attribute **might be** a hit ratio... Other performance attributes **might** include response time, bandwidth, and throughput. In light of this cited portion, the examiner submits that, first, the performance attribute is not clearly defined so as to be unequivocally interpreted when used in the claim language and secondly the performance attributes are all cited as examples. One of ordinary skill or one skilled in the art would not know which one of these exemplary performance attributes is included or not included in the claimed performance attributes. If one skilled in the art is to write an algorithm to generate data

performance attributes indicative of a performance attribute, one would not know how to write such a program because each performance attribute requires a different unit of measurement (e.g., unit for response time is different than unit for bandwidth or throughput) and a generic program may not work properly for all types of performance attributes. Therefore, the examiner submits that "generating data indicative of a performance attribute" was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Claim 17: "providing data indicative of whether said competing algorithm is preferable"

Applicants submitted that the examiner incorrectly reproduced the limitation in claim 17. Furthermore, Applicants submitted that they are unable to respond meaningfully to an incomplete rejection of claim 17 in the examiner's previous Office action and thus, the present Office action will be non-final.

In response, the examiner apologizes for the typographical error introduced when he reproduced the limitation in his response. However, the examiner disagrees with Applicants' contention that the rejection of claim 17 is incomplete and because of this, the present Office action will be non-final. First, claim 17 was explicitly rejected under 35 U.S.C. § 112, first

paragraph as being not properly supported in the specification (see previous Office action, page 7, 6th line from the bottom). Thus, the rejection is not incomplete as submitted by Applicants. Second, if the limitation in claim 17 was incorrectly reproduced, the examiner's assertion would simply be moot. Therefore, there is no basis for making the present Office action non-final.

Claim 20: "evaluating a ratio..."

Applicants submitted that the following cited passage from the specification: "a suitable performance attribute might be a hit ratio that indicates the probability that data sought is already in the cache memory" is quite obvious that the hit ratio is obtained by counting the number of times one requests data, counting the number of times that the data requested is in the cache, and dividing the latter by the former.

In response, first, the examiner notes that the cited portion does not provide explicit support for the ratio as being a probability derived by dividing the number of times data requested is in the cache by the number of times one requests the same data, as submitted by Applicants. Second, the cited portion is given in the specification as an **example** of performance attributes. One of ordinary skill or one skilled in the art would not know whether this feature is included in the claimed subject matter of the invention. Third, claim 20 recites specifically "a ratio indicative of an extent to which said competing-algorithm score exceeds said incumbent-score during said selected interval."

After careful review of the specification in light of Applicants' clarification of the claimed "ratio," the examiner submits that there is no explicit description therein of a correlation between the claimed "ratio indicative of an extent to which said competing-algorithm score exceeds said incumbent-score during said selected interval" with the hit ratio.

Accordingly, the examiner maintains that the limitation claimed in claim 20 was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

c. 112 Rejection (Enablement)

Applicants essentially submitted that the examiner is required to "specifically identify what information is missing and why one skilled in the art could not supply the information without undue experimentation."

In response to the above argument, Applicants' attention is respectfully directed to the previous Office action at pages 9-10 where the non-enabling limitations are specifically listed and why one skilled in the art could not supply the information without undue experimentation.

The examiner submits that if one skilled in the art decides to reproduce the claimed invention, he/she would not know how to, based on a vague, generic and non-enabling disclosure.

d. Rejection of claims 1, 6, 7-10, 15-17, 20-28

See aforementioned discussion related to these claims.

e. Rejection of claims 14 and 29

As indicated previously, claims 14 and 29 contain similar features of claims 1 and 16. Therefore, the same rejections can be applied and reasonably be traversed by Applicants.

f. Allowability of claims 18-19, 26

Since these claims depend from the base claims which are rejected under 35 U.S.C. § 112, first paragraph, claims 18-19 and 26 are considered not in condition for allowance because they inherit the deficiencies of the base claims.

In view of the foregoing discussion, claims 1-29 stand rejected under 35 U.S.C. § 112, first paragraph as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention and to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

4. For detailed rejections of the pending claims, see previous Office action.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoang-Vu "Antony" Nguyen-Ba whose telephone number is (571) 272-3701. The examiner can normally be reached on Tuesday-Friday from 7:45 am to 6:15 pm.

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Tuan Dam can be reached at (571) 272-3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC 2100 Group receptionist (571) 272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

Hoangmanh Antony Nguyen Ba

ANTONY NGUYEN-BA
PRIMARY EXAMINER

May 22, 2006